

REMARKS

Reconsideration is respectfully requested. Claims 1-15 are present in the application.

Claims 1-3 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable. Claims 1, 3-9, 12 and 13 are rejected as being obvious over the combination of US 7088824 (Takeuchi) as combined with 6545791 (McCaughan et al). Claims 2, 10, 11, 14 and 15 are rejected over this same combination, with the further addition of US5866911 (Baer).

Applicant respectfully traverses.

The Examiner states that Takeuchi teaches a long detection period, citing column 4, lines 43-51. Applicants respectfully assert that Takeuchi does not teach a long detection period.

This cited portion of Takeuchi states the following:

It is called passive quenching to simply insert passive elements such as serial resistor to the voltage supply portion and provide such effects, while it is called active quenching to use an amplifier, etc. to carry out such control actively. In the SPCM-AQ, the dead time of the detector which is the time to enable the detector to detect the next photon after the previous photon incidence is about 100 ns and the output pulse width is about 9 ns. (emphasis added)

We have added emphasis to the portion of Takeuchi to assist in understanding what Takeuchi is saying. What this portion of this document is stating at column 4, lines 43-51, is that the dead time is about 100 ns. Column 4, lines 43-51 do not mean

that the detection period is long. The length of dead time is indifferent to the length of the detection period in Takeuchi. There is no teaching of a long detection period of the detector, only teaching that the dead time of the detector is about 100 ns. The dead time is the amount of time that it takes to enable the detector to detect a next photon after a prior photon has been detected.

In contrast, in the present claims, the detection period is set long and then the idler photon can be detected with high probability. At the time when the idler photon is detected, the short control signal to open the optical switch is enabled. In this way, a single photon can be generated reliably.

As noted before, the long gate period raises the probability of capture of one photon of the photon pair. Takeuchi is silent as to this concept and feature, and McCaughan and Baer add nothing that would teach or suggest this, and accordingly the documents and their combination do not teach or suggest the claims.

The office action states that applicant argued that Takeuchi did not teach a CW laser. Applicant's representative has reviewed the prior response and cannot locate anywhere that this argument was made, so we are concerned that the technical differences that were argued were overlooked.

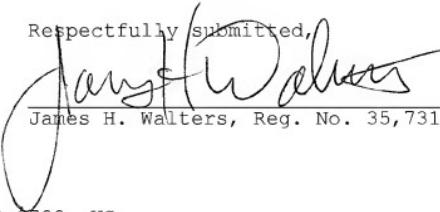
It is therefore respectfully submitted that claims 1-15 are patentable and the combination of McCaughen, Baer and Takeuchi

does not teach or suggest the claims, nor would the documents teach or suggest the claims when considered alone.

In light of the above noted amendments and remarks, this application is believed in condition for allowance and notice thereof is respectfully solicited. The Examiner is asked to contact applicant's attorney at 503-224-0115 if there are any questions.

It is believed that the required fees are being submitted herewith. However, if additional fees are required to keep the application pending, please charge deposit account 503036. If fee refund is owed, please refund to deposit account 503036.

Respectfully submitted,


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